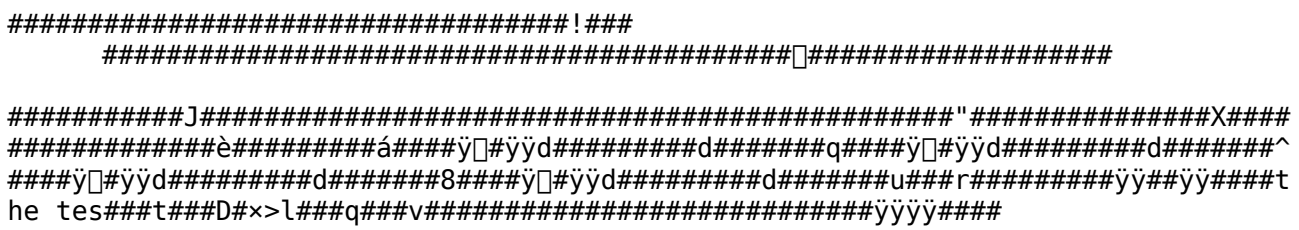

```
####ÿ□#ÿÿd#########d#########2##□##ªö□ûV
      s#ÿÿ####ÿÿ#####ÿ□#ÿÿd#########d#########□###EST BackgroundProposed EST
ApproachEST DescriptionEngineering Support ToolOperational Suitability Index
Profile ChartSummary=
```

#################(##########################ÿ□#ÿÿd#########d#########2##□##ªö□ûV
s#ÿÿ####ÿÿ#####ÿ□#ÿÿd#########d#########u###EST developed by XR to aid Logisticians in the Developmental Planning ProcessMission: Identify and assess potential Reliability, Maintainability, and Supportability (RM&S) advancements or investigations. Systematically ensure ILS requirements are addressed as early as feasible. Provide RM&S influence in design and help ready technologies for subsequent development.e

#################(##########################ÿ□#ÿÿd#########d#########2##□##ªö□ûV
s#ÿÿ####ÿÿ#####ÿ□#ÿÿd#########d#########□###Logisticians participate in Dev Plan Process teamsID logistics related constraintsID logistics related opportunitiesInvolve user, operator, ALC, and Product CenterMatch log technologies w/ developmental techID depot level implicationsFor each technology, ID support drivers necessary to make informed life cycle decisions for that technologyID support concept alternatives for each technologys

#################(#########################ÿ□#ÿÿd#########d#########2##□##ªö□ûV
s#ÿÿ####ÿÿ#####ÿ□#ÿÿd#########d#############Conduct tradesSupport concept vs. support conceptSupport concept vs. technology conceptTechnology concept vs. technology conceptFeed logistics trade results back to IPTThis mission and approach parallels role of logisticians in lab / experimental programs

#################(##########################ÿ□#ÿÿd#########d#########2##□##ªö□ûV
s#ÿÿ####ÿÿ#####ÿ□#ÿÿd#########d#########Ô###ID and select technology unique program constraintsID and select most important logistics related topics Determine relationship of logistics related topics to technology unique program constraints and assign relative strength of impactGenerate weights representing the relative importance of the technology unique program constraintsCalculate relationship scoresRank logistics related topics by total relationship scores across technology unique program restraints

#################(##########################ÿ□#ÿÿd#########d#########2##□##ªö□ûV
      s#ÿÿ####ÿÿ#####ÿ□#ÿÿd#########d#########³###MS Excel spreadsheet that Formalizes the RM&S process in technology developmentEvaluates the operational suitability of technologiesProvides a means of measuring the changes in the operational suitability of a technologyMatrix showing the relationships between any one attribute of the technology and each of the topics it affectsThe matrix indicates whether the attribute decreases (-) or enhances (+) the strength of the topics#

#################$##########################ÿ□#ÿÿd#########d#######X###U########
###ÿÿÿ###########V###W#### A□Đùpÿ0#□
############ýÿ####Ï4A###`úpö #àþ############ýÿ######################2##□##
ú□ÿö#s #############ÿ□#ÿÿd#########d#########e###EST starts with a matrix showing the relationships between attributes (engineering language) and topics (elements of operability). This matrix indicates whether the attribute decreases (-) or enhances (+) the strength of the topic to the right.These attributes provide traceability and growth to the traditional ILS elements and EST charts that growth. n

#################$##########################ÿ□#ÿÿd#########d#########2##□##pö□ü□
###ÿÿ####ÿÿ#####ÿ□#ÿÿd#########d#########ú###What amount of this technology would be described as ...+3 = A Significant amount+2 = A Moderate amount+1 = Slightly more than a similar technology 0 = Not Applicable- 1 = Less than a similar technology- 2 = Much less than a similar technology

```
#ú#########ú#################ú#########9#####□#ÿÿd#########d#############□#ÿÿd##
#######d#############□#ÿÿd#########d#######-
#####□#ÿÿd#########d#############□#ÿÿd#########d#######
%#####□#ÿÿd#########d#######)#####□#ÿÿd#########d#######d###a#############ÿÿ####
ªUªUªUb###c#### A□Đùpÿ0#□
      ############ýÿ####Ï4A###`úpö #àþ############ýÿ######################2##□##
ú□ÿö#s      ÿÿ####ÿÿ#####ÿ□#ÿÿd#########d#########º###
```

After identifying a Baseline system, the design engineer, together with the logistician, use these guidelines to determine the rating for each attribute as it applies to this technology.

```
#################$##########################ÿ□#ÿÿd#########d#########2##□##Úöqû
##ýÿÿ####ÿÿ#####ÿ□#ÿÿd#########d#########[###Record justification for score in
□Cell Notes.□□Attach Note□ available on Auditing Toolbar#
```

#[#########[#################[#########0#####□#ÿÿd#########d#######+####ÿ□#ÿÿd##
#######d#######p###m############ÿÿ##########n###o#### A□Ðùpÿ0#□
      ###########ýÿ##l#×>A###`úpö #àþ###########ýÿ#####################2##□##
ú□ÿö#s   ÿÿ####ÿÿ#####ÿ□#ÿÿd#########d#########è###Cell notes are used to record the justification or reasoning behind each attributes rating. (Reason score was used. Which technology was used for comparison. Would you expect to see this attribute in a technology like this?)This will be the documentation for EST and the record supporting the technology□s Operational Suitability Index. Included in the note is the attribute definition and examples of what information is desired.Notes can be printed with the spreadsheet or separately.

```
#################$##########################ÿ□#ÿÿd#########d#######|
###y############ÿÿÿÿ##########z###{#### A□Ðùpÿ0#□
	###########ýÿ##l#×>A###`úpö #àþ############ýÿ######################2##□##
ú□ÿö#s	ÿÿ####ÿÿ#####ÿ□#ÿÿd#########d#########r###While moving through the
list of attributes, if a question comes up as to why the attribute has the
indicated effect, they can simply click on the button of the topic in question
and EST will take them to the supporting statement sheet.User friendly and
provides the user with just the information needed when it□s asked for.The user
manual is an embedded □Help File.□
```

```
#########A#@öàû
□ý############ýÿ##L#×>I####÷°þ0     à#############ýÿ###########ûö°þ0
      °#############ýÿ#########AGJùbøP#~û############ýÿ##$
      ×>æ#########æ#####2##□##zöýûæ sýÿÿ####ÿÿ#####ÿ-
#ÿÿd#########Z#########Z###
```

Each screen contains statements capturing the main impact of the attributes on each topic.

```
#################$##########################ÿ□#ÿÿd#########d#######□###□
###########ÿÿÿÿ########□#□###□#### A□Ðùpÿ0#□
	###########ýÿ##l#×>A###`úpö #àþ###########ýÿ######################2##□##
ú□ÿö#s	ÿÿ####ÿÿ#####ÿ□#ÿÿd#########d#########3###
```

These sheets contain the definitions of each topic and the supporting statements of effects.In each statement we tried to capture the main reason(s) for the indicated effect of the attribute on this topic.From this sheet you can go to the backup data, and lessons learned, if more information is desired.s

#################(##########################ÿ□#ÿÿd#########d#########2##□##ªö□ûV
s#ÿÿ####ÿÿ#####ÿ□#ÿÿd#########d#########ò###Operational Suitability is the degree to which a system can be placed satisfactorily in field useOperational Suitability Index is derived from the associated numbers of the technology profileBased on product of attribute ratings and weighting for each topic it affectsAlone, it does not indicate operational suitabilityIt is a reference point to measure how the technology is changing over timeQuick comparisons of technologies, and trace changes, can be made simply by comparing these numbers

```
###############$########################ÿ□#ÿÿd#########d#########2##□##ªö□ûV
      »#ÿÿ####ÿÿ#####ÿ□#ÿÿd#########d#########J###A snapshot of the Operational
Profile of the technology at a point in time
```

```
#J#########J#################J#########J####ÿ□#ÿÿd#########d####### ###□########
#####ÿÿ##########□###□#### A□Ðùpÿ0#□
      ############ýÿ####Ï4A###`úpö #àþ############ýÿ######################2##□##
ú□ÿö#s      #############ÿ□#ÿÿd#########d#########□###
```

After all the attributes are assigned a number (rating) this chart shows a profile of the operational suitability of the technology. This becomes a snapshot of how the technology looks at this time.This chart should be used as an indicator of where you might look at adding or deleting attributes to improve Operational Suitability, not for comparisons.(Identifies areas of opportunity.)

```
###Availability####-#######ð#######û#ñÿ##□#□#¼#########Times New Roman#ÿÿ####-
#######2
##V#####Maintainability#####-#######ð#######û#ñÿ##□#□#¼#########Times New
Roman#ÿÿ####-#######2
##□####Human Factors#####-#######ð#######û#ñÿ##□#□#¼#########Times New
Roman#ÿÿ####-######2
##Ì#####Environment#####-#######ð#######û#ñÿ##□#□#¼#########Times New
Roman#ÿÿ####-#######2
þ######Affordability#####-#######ð#######û#ñÿ##□#□#¼#########Times New
Roman#ÿÿ####-#######2
##B####Producibility#####-#######ð#######û#ñÿ##□#□#¼#########Times New
Roman#ÿÿ####-#######2
##|#####Sustainability####-#######ð#######û#ñÿ##□#□#¼#########Times New
Roman#ÿÿ####-######2
ó#·#####Testability#####-#######ð##########Û###############
#ì#########Û#########Û#############################Q#########Q#########□########
#□#########Æ#########Æ#############################<#########<#########w########
#w#########±#########±#########ì#########ì#####û#ìÿ######¼#########Times New
Roman#######-#######-#######û###   #####¼########"System######-
#######'#ÿÿ##########-#######-#########ÿÿÿ################=#####¿#######
#############2
##Æ#####Topics
```

```
ü~ÿ#üÿÿøÿÿ#óÿÿóÿÿ#÷ÿÿÿÿÿ#ÿÿÿÿÿÿf######ÿÿÿ#####û#ïÿ######□########"MS Sans
Serif#□t####-#
#####-#######-#######'#ÿÿ##########-#
#####-#########ÿÿÿ###### ###########Ý######################:###2
;# #"###If the technology, or any part of ########   #     ##### #     #     #
      #     ###   #     #######     ##### #     ##### #     #######
      #####6###2
P#3#####it, is: [attribute]   Then the ###########   #######     #########   #
      ###   #########
#     #     #     ##### #     ###1###2
e#8#####topics to the right will be ##   #     ###   #     ##### ##### #
      #######     #     #####
```

```
#□###2
##.#X###Standardization can allow the use of common facilities, support
equipment, material, and     #########################    ###################
      #####################   #######    ###
      #####################################    ############################
#############################-#######-#######'#ÿÿ##########-#
```

#□###2
##.#V###   processes in manufacturing, operation and support lowering Life-Cycle Costs (LCC).############   #####################
############################# #############   #####################   #########
      ###############
####################### ###########
#############-#######-#######'#ÿÿ##########-#

#□###2
6#.#V###Modularized items offer economies associated with manufacturing and
support processes.##   ################################   ###############   ###
      ################ #########################
###################-
#######-#######'#ÿÿ##########-#

```
#£###2
M#.#h###Testability, provides confidence, shortens maintenance time, and reduces
production & maintenance costs.    ############################# ###############
      #########################    ########################################
################################### ########### ########
#########################    #############-#######-#######'#ÿÿ##########-#
```

```
#□###2
d#.#_###Repairable items, allow lower level spares (SRU) & fewer high level
spares (LRU), reducing LCC.##########################################  #######
      #####################################    ###
```

#□###2
{#.#_###Higher reliability is generally good, but if pushed beyond what is necessary it drives up cost.#

#□###2
□#.#c###Expensive technology may be beyond budget. Using inexpensive items generally results in lower LCC.#
############################## ###   ###########################
      ##########################

###2
©#.#f###Special PHS&T, support equipment & maintenance procedures required for microscopic items increase LCC.   ###############
#

```
##HP LaserJet Series II#HPPCL#LPT1:#PT1:#bupsml2 (LPT2:)#Genigraphics Driver on
COM1:#HP LaserJet Plus on \\gbulaser\gbuljml2 (LPT1:)#PostScript (MGXPS24) on
None#PostScript (Micrografx) on None#TeleGrafx - on
None############################################□#HP LaserJet Series
II#PT#Y½#□0#W
#
```

```
###n######z#######□#######□#######°###########Design-in
RM&S#########Engineering Support Tool (EST)########%###Ken Bassett, SMC/XRL,
(310) 336-
4163##########################2###c:\msoffice\powerpnt\template\sldshow\smctemp.
ppt###########L.A. AIR FORCE BASE#########24####@###¦lñ·_¼#@###¦F(é^¼#@###□
%Ø¹·_¼#################Microsoft PowerPoint 4.0##G#######ÿÿÿÿ######8cjJ####
      ###v#####3#########&#####ÿÿÿÿ######Àô□÷@#p#
###&###
#ÿÿÿÿ##########&###$#ÿÿÿÿ######TNPP##Microsoft PowerPoint####&###
```